



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/897,316	07/02/2001	Giorgio Agostini	DN2001136	1733

7590 09/05/2003

The Goodyear Tire & Rubber Company
1144 East Market Street, D/823
Akron, OH 44316-0001

EXAMINER

WYROZEBSKI LEE, KATARZYNA I

ART UNIT	PAPER NUMBER
----------	--------------

1714

DATE MAILED: 09/05/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/897,316

Applicant(s)

AGOSTINI ET AL.

Examiner

Katarzyna Wyrozebski Lee

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 10-16 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-16 and 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 1714

In view of applicant's amendment mailed on June 23, 2003 canceling silane and silanol limitations from the claims following non-final office action is necessitated.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 2-4, 21, 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In the instant case, claims 2-4, 21 and 23 either directly or indirectly contain limitation of carbon black being exclusive of silane or silanol groups. Exclusion is considered a negative limitation, which has to have explicit recitation in the specification for support. *In re Grasselli* US Appeals Court for Federal Circuit 738 F2d (1984).

Specification

3. The disclosure is objected to because of the following informalities: On page 4, line 27 term "polymerizate" is misspelled. It currently appears as "polymetizate".

Appropriate correction is required.

Claim Objections

4. Claims 13, 14 are objected to because of the following informalities: Claims 13 and 14 depend on cancelled claims 8 and 9. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1, 3, 5, 6, 10, 22, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over GORL (EP 1,010,718) in view of WENGOG (US 4,816,594).

The prior art of Gorl, example 1, page 7 discloses following process: A stable dispersion of N234 carbon black, zinc oxide, Maripal (glycol ether) Stearic acid, PPD (N-(1,3-

Art Unit: 1714

Dimethylbutyl)-N-phenyl-p-phenylenediamine) and TMQ (2,2,4-trimethyl-1,2-dihydro-chinolin) are mixed together. The dispersion is mixed and then added to latex emulsion of emulsion polymerized styrene/butadiene rubber. The mixture is vigorously stirred and composite having particulate rubber containing filler is precipitated out, which means that it is separated from the solvent, in this case aqueous solvent.

The at least part of the filler according to claim 1 of Gorl is modified with a functional group. Claim 1 of Gorl teaches that black filler (shwarzen fullstoffe) is modified with compounds of formula I, II or III of claim 3. Claim 3 teaches that the functional groups include organosilanes such as alkoxysilanes and sulfur derivatives.

Vulcanization occurs at 165°C. Specification, on page 4, further teaches more examples of functional groups, which include polysulfides such as disulfides and tetrasulfides of ethoxysilanes. Si69 utilized in the examples is bis-triethoxysilylpropyl tetrasulfide (page 9).

In the examples the prior art of Gorl utilizes another reinforcing filler, which is silica (ULTRASIL 7000 Gr, page 9), which is also pre-treated with the same type of alkoxy silane, and which is precipitated silica. It is well settled that it is prima facie obvious to combine two ingredients, each of which is targeted by the prior art to be useful for the same purpose. *In re Linder* 457 F.2d 506, 509, 173 USPQ 356, 359 (CCPA 1972). Therefore since both fillers are reinforcing fillers utilized separately to reinforce rubber, combination of the two fillers in appropriate amounts would still reinforce the rubber and therefore would have been an obvious modification.

Art Unit: 1714

The difference between the present invention and the disclosure of the prior art of GORL is using coupling agent other than silanes and modifying the reinforcing fillers to contain aluminum, zirconium and titanium compounds.

With respect to the above disclosure the prior art of WENGONG discloses coupling agents that can be utilized in rubber composition, to promote adhesion between fillers and rubber (ABSTRACT).

The compounds disclosed by the prior art of WENGONG include aluminum alkoxides, aluminum hydroxides (col. 4, lines 29-40). The prior art WENGONG also teaches that other well known coupling agents systems include titanium based systems (col. 1, line 63-65) as well as zirconium based coupling agents (col. 1, lines 40-42).

Utilizing these coupling agents instead or in addition to of silane in process of GORL would produce reinforcing filler having in case of aluminum, aluminum hydroxide or aluminum oxide on its surface.

In the light of the above disclosure having read and understood the prior art at hand in would have been obvious to one having ordinary skill in the art to utilize other coupling agents such as those of WENGONG and thereby arrive at the present invention. Use of other coupling systems would still provide rubber composition and reinforcing fillers modified to have the same functional groups as those modified with silanes.

7. Claims 2, 4, 11-16, 21, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over GORL (EP 1,010,718) in view of WENGOG (US 4,816,594) as applied to claims 1, 3, 5, 6, 10, 22, 24 above, and further in view of ZIMMER (US 6,136,919).

Art Unit: 1714

The discussion of the disclosures of the prior art of GORL and WENGONG from paragraph 6 of this office action is incorporated here by reference.

The difference between the present invention and the prior art of GORL and WENGONG is showing that reinforcing filler can be added in organic solvent to solution of styrene butadiene rubber in organic solvent, wherein the rubber component is being polymerized. Also making of tire component.

With respect to the above differences, the prior art Zimmer discloses process where as shown in the example 1, pre-treated silica in heptane is added to polybutadiene monomer dispersion in organic solvent and then styrene. Example II teaches use of styrene-butadiene already solution polymerized, and it is well established that in the solution polymerization solvent is organic.

Although the example in the prior art of Zimmer teaches use of pre-treated silica as the reinforcing filler, claim 1 also teaches use of carbon black.

Regardless what type of solvent is utilized in dispersion, that solvent is removed before the composite is vulcanized to form a tire tread.

In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to utilize organic solvent instead of aqueous and thereby obtain the claimed invention. The resulting composite and tire tread product will be the same since the solvents have to be removed in order to form a product.

Art Unit: 1714


In the amendment filed on 6/23/2003 the applicants have argued that the silanol groups in present claims as amended are optional in addition to one or more required domains.

In view of the amendment, the prior art of GORL was overcome, however the new rejection addresses new domains. The applicant's arguments are therefore considered moot. With respect to the exclusion of the silanol groups, such limitation is rejected as new matter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna Wyrozebski Lee whose telephone number is (703) 306-5875. The examiner can normally be reached on Mon-Thurs 6:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (703) 306-2777. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


KIWL

August 28, 2003